Mathematics

Primary Four
First term

Name: ....

Class: 4 /.................







Revision on Primary 3

1) Find the result:

a) 2489 + 578 =..............
b) 7051 - 4493 =..............
c) 17 × 5 =..............
d) 284 ÷ 4 =..............

2) Complete:

a) The greatest 4 digit numbers is ....
b) ....+ 2525 = 5000
c) ....× 3 = 912
d) 900 ÷ ....= 9

3) Peter has LE 20. He bought 3 copybooks for L.E 2 each and 4 pencils for L.E 3 each .Find the money left with him.

The price of copybooks =..
The price of the pencils =..
He paid =..
The money left =..

4) Find the result:

a) 8125 + 123 =......................
b) 7009 - 192 =......................
c) 19 × 7 =......................
d) 783 ÷ 3 =......................



5) Complete:

a) 9207 + ……….. = 9546

b) ……….. ÷ 5 = 38

c)The perimeter of a square whose side length 3 cm is………

6) Find the result for each of the following

a) 70 ÷ 5 =………………….

b) 12611 + 73=…………………..

c) 7192 – 111 =…………………….

d) The greatest 3 digit number is………………

7) Complete:

a) 12 , 18 , 24 , ……….. , ……………, ………….

b) 88 , 80 , 72 , …………, …………..

c) ……… ÷ 100 = 25.

8) Mona bought 3 stories each for LE 6 and 4 pens each for LE 2 .Calculate the money paid.

The price of stories =………………………………………

The price of pens =………………………………………

The money paid =………………………………………



Unit 1 Lesson 1



Hundred Thousands

99 999 + 1 = 100 000
This number is read as "**hundred thousand**"
It is a **six** digit number.
The **greatest** 6-digit number is **999 999**
The **greatest different** 6-digit number is **987 654**
The **smallest** 6-digit number is **100 000**
The **smallest different** 6-digit number is **102 345**

1) Read and write the following numbers:

a) 450 125 ....

....

b) 202 452 : ....

....

c) 620 302 : ....

....

2) Write the following numbers in digits:

a) Two hundred forty three thousand, seven hundred and eighty five : ....

b) Seventy thousand and three : ....

c) Three hundred twenty two thousand, nine hundred and four : ....

3) Complete as shown in the example:

123 450 = 123 Th + 450

a) 452 100 = ... Th + ...

b) 235 040 = ... Th + ...

c) 805 002 = ... Th + ...



4) Complete as shown in the example :

312 584 = 312 000 + 584

= 300 000 +10 000+2000+500+80+4

a) 204 125 = ... + ...

= .... + ... + ... + ... + ... + ...

b) 120 548= .... + ...

= .... + ... + ... + ... + ... + ...

5) Complete as shown in the example :

300 000 +10 000+2000+500+80+4 = 312584

<u>Remember</u> "hundred thousand" is a six digit number.
At the end count the digits to check your answer. If the digits are less than 6 then put zero in the missing place value.

a) 800 000+60 000+2000+300+10+5= ....

b) 500 000+70 000+1000+400+7=....................

c) 300 000+6000+300+20=............

6) Arrange the following numbers in ascending order:

a) 12 134 , 12413 , 10245 , 4 987 , 999.

.... , ... , ... , ... , ...

b) 445 544 , 544 544, 545 545 , 454 554 , 545 455.

.... , ... , ... , ... , ...

7) Arrange the following numbers in descending order :

a) 458 548, 120 540, 145 854, 215 521, 54 855

.... , ... , ... , ... , ...

b) 546 654, 654 564, 544 654, 566 454, 655 554

……………… , ………………… , ……………… , ……………… , ………………

8)Write the greatest and the smallest numbers formed from :

a) 7 , 8 , 5 , 4 , 9 , 1

The greatest no. :……………………

The smallest no. :…………………

b) 5 ,6 ,4 ,0 ,3 , 2 , 6.

The greatest no. :……………………

The smallest no. :…………………

9)Write the place value of the underlined digits :

a)2<u>3</u>4 567 : ……………………

b)<u>6</u>05 876 : ……………………

c)34<u>5</u> 564 : ……………………

10) Complete using >, < or =:

<u>Remember</u>: To compare any two numbers:
1. Count the digits (the number with more digits is greater)
2. Start from the highest place value if the two digits are equal then check the next and so on until you reach the units digit

a) 123 678 ……… 56 789

b) 345 739 ……… 345 738

c) 569 032 ……… 569 032

d) 876 543 ……… 785 874

Unit 1 Lesson 2

Millions, Ten Millions and Hundred Millions

999 999 + 1 = 1 000 000
This number is read as "**One Million**"
It is a **seven** digit number.
The **greatest** 7-digit number is **9 999 999**
The **greatest different** 7-digit number is **9 876 543**
The **smallest** 7-digit number is **1 000 000**
The **smallest different** 7-digit number is **1 023 456**

9 999 999 + 1 = 10 000 000
This number is read as "**Ten Million**"
It is an **eight** digit number.
The **greatest** 8-digit number is **99 999 999**
The **greatest different** 8-digit number is **98 765 432**
The **smallest** 8-digit number is **10 000 000**
The **smallest different** 8-digit number is **10 234 567**

99 999 999 + 1 = 100 000 000
This number is read as "**Hundred Million**"
It is a **nine** digit number.
The **greatest** 9-digit number is **999 999 999**
The **greatest different** 9-digit number is **987 654 321**
The **smallest** 9-digit number is **100 000 000**
The **smallest different** 9-digit number is **102 345 678**

1) Read the following numbers then complete:

Remember: To read a number, first count the digits:
If 6-digits then start with hundred thousands, if 7-digits then start with million, if 8-digits then start with 10 million, and so

a) 3 503 397

=........................ million, ...thousand and ....

b) 54 789 321

=........................ million, ...thousand and ....

c) 980 542 762

=........................ million, ...thousand and ....

2) Solve:

<u>Remember:</u> First identify the digit that will increase by 1 then write the rest of the digits as it is.
Example: one million +<u>5</u> 678 543 = <u>6</u> 678 543

a) one million + 8 675 342 = ...

b) one million + 294 675 = ...

c) one million + 39 675 768 = ...

c) Ten million + 21 675 432 = ...

d) Ten million + 3 765 454 = ...

e) Hundred million + 321 546 675 = ...

f) Hundred million + 54 786 543 = ...

3) Complete as the example:

Example: 765 432 651 = 651 + 432 000 + 765 000 000
<u>Hint:</u> start with the last 3 digits, then the next three digits and put zeros equivalent to the number of the following digits and so on

a) 53 786 701 = ...+.........................+..................................

b) 243 654 874 = ... + ... + ...

c) 7 200 760 = ... + ... + ...



4) Choose the nearest number to:

a) six hundred million

(600 000 900, 600 005 000, 599 999 000)

b) fifty million

(50 000 100 , 50 001 000 , 49 999 000)

Hint: *The number with the smallest difference is the nearest*, this means that you subtract each number from the given number and choose the number with the smallest difference

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Unit 1 Lesson 3

Milliards (Billions)

999 999 999 + 1 = 1 000 000 000

This number is read as "**Milliard**" or "**Billion**"

It is a **Ten** digit number.

The **greatest** 10-digit number is **9 999 999 999**

The **greatest different** 10-digit number is **9 876 543 210**

The **smallest** 10-digit number is **1 000 000 000**

The **smallest different** 6-digit number is **1 023 456 789**

To read this number we separate it as shown

8, 407, 193, 325

8 milliard. 408 million. 193 thousand and 325

1) Read the following numbers then complete:

a) 9 623 706 543

……………milliard,…………… million,……………thousand and …………

b) 6 432 004 800

……………milliard,…………… million,……………thousand and …………

c) 5 123 070 804

……………milliard,…………… million,……………thousand and …………

Unit 1 Lesson 4

Operations on Large Numbers

Remember: to get the right answer make sure you add or subtract the digits with the same place value together and of course start from the *units* digit.

1) Find the result of each of the following :

a)412 241 +258 965=……………………………………………………

b)78 956+ 691 254=……………………………………………………

c)410 257- 45 999=……………………………………………………

d) 1000 000 – 999 999=……………………………………………

e) 120250+ 45 500+ 4 250=…………………………………………

f) (87 456+ 58457)-(23 564+24 255)=……………………

2) Complete :

a) 879 789 - ……………………= 345 543

b) ……………………- 621 098 = 453 684

c)25 543 876 + ………………=50 000 000

Remember: Missing number rule:

small + small = Big

Big - small = small

If the missing number is "Big" then you need to add the other two given numbers to find it

If the missing number is one of the "small" then you need to subtract the "small" from "Big" to find it.



Multiplying a whole number by a 1-digit number:

1) Find the product of :

a) 25 × 4 = ………………

b) 125 × 8 =………………

c) 1 254 × 3 =……………

> Remember: multiply the 1-digit number by every digit in the whole number starting from the *units* digit

d) 7 654 × 5 = ………………

e) 54 342 × 6 = ………………

f) 432 503 × 4 = …………………

2) Find the product as the example:

2 × 43 214
= 2 × (4 + 10 + 200 + 3000 + 40 000)
= 8 + 20 + 400 + 6000 + 80 000 = 86 428

a) 6 × 63 521
= ………… × (……… + ………… + …………… + ……………… + ………………)
= …………… + …………… + ……………… + ……………… + ………………
=…………………………

b) 1653 × 8
= (……… + ………… + …………… + ………………) × ………
= …………… + ……………… + ………………… + ………………
= ……………………

c) 4 × 34 209
= ………… × (……… + ………… + …………… + ……………… + ………………)
= …………… + …………… + ……………… + ……………… + ………………
=…………………………



Multiplying a whole number by a 2-digit number:

Find the product:

Draft

a) 34 × 56 = …………

b) 67 × 315 = ………

c) 31 × 2641 = ………

d) 28 × 23 507 = …………

e) 36 × 412 568 = …………

f)
```
  45
× 21
…………
```

g)
```
  45601
×    34
………………
```

h)
```
  60 348
×     21
…………………
```

i)
```
  470 231
×      58
…………………
```




Dividing by a 1-digit Number

Dividend		Divisor		Quotient
6	÷	2	=	3

Also 2 × 3= 6

Remember:

* In division we start from the very left digit

Ex: 462 ÷ 2 = 231

* If any digit in the dividend is less than the divisor then take the next digit with it but don't forget to put the zero if it is in the middle.

Ex: 146 ÷ 2 = 73 Ex: 21 21 ÷ 3 = 707

*If the digit in the dividend is not divisible by the divisor (not in its multiplication table) take the number just before it in the multiplication table and don't forget to add the remainder to the next digit.

Ex: 847 ÷ 7 = 121

8 is not divisible by 7, take 7 ÷ 7 =1 and remainder 1 carry 1 to the 4 it becomes 14 , take 14 ÷ 7 = 2.

1) find the quotient:

8 ÷ 4=.........

36 ÷ 6 = ...

48 ÷ 8 =.........

70 ÷ 10 = ...

112 ÷ 8 =.........

66 ÷ 6 = ...

80 ÷ 4 =.........

1500 ÷ 3 = ...

846 ÷ 6 = ...

12 ÷ 3 =.........

1515 ÷ 5 = ...

152÷ 4 = ...

153 ÷ 9=.........

204 ÷ 2 = ...

144 ÷ 3=.........

300 ÷3 =.........

108 ÷ 9 = ...

190 ÷ 10 = ...

	Dividend		Divisor		Quotient	
	7	÷	2	=	3	and remainder 1

Also 7 = (2 × 3) + 1

Remember:
The remainder must be less than the divisor

The division operation	The dividend	The divisor	The quotient	The remainder	Relation between elements
57 ÷ 8					
47 ÷ 5					
76 ÷ 10					
32 ÷ 4					
	49	8			

Dividing a whole number by a 2-digit number:

Remember: the steps of the long division
1. Divide
2. Multiply
3. Subtract
4. Bring down
5. Remainder

1) Find the quotient and the remainder:

a) ……
3 ⟌ 756

b) ……
7 ⟌ 336

c) ……
$11 \overline{)\ 1320}$

d) ……
$32 \overline{)\ 38252}$

e) ……
$12 \overline{)\ 11820}$

f) ……
$15 \overline{)\ 9510}$

g) ……
$18 \overline{)\ 12276}$

h) ……
$14 \overline{)\ 1372}$

Story problems

1) Peter bought a flat for L.E 450 300 and a car for L.E 125 700. Find the total money he paid.

He paid =……………………………………………………

2) Mary saved P.T 567 765. She spent P.T 47985.What is the amount of money left with her?

The amount of money left =…………………………………………….

3) A woman had P.T 56 455 and went to the market. If she bought 3 kg of carrots for P.T 225 each , 4 kg of fish for P.T 3 050 each and some fruits for P.T 4 575. Find the money left with her.

The price of carrots =……………………………………

The price of fish =………………………………………

Total money paid =…………………………………

The money left =…………………………………………

4) Hany bought a flat for L.E 575 000. He paid L.E 75 000 cash and the rest of the money on 10 equal yearly installments. Find the value of each installment.

The rest of the money =………………………………………………………

The value of each installment = ………………………………………



Remember …… think well about the problem before starting to solve !!



Unit 2-Lesson 1

Relation between two straight lines and Geometric constructions

Remember:

right angle = 90° acute angle < 90°

obtuse angle > 90° straight angle = 180°

*If the angle between two intersecting lines is acute or obtuse then the two lines are **Intersecting** and **not Perpendicular**.

*If the angle between two straight lines is a right angle then the two lines are **Intersecting** and **Perpendicular**.

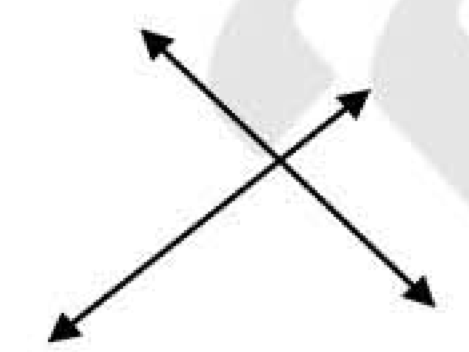
*If two straight lines can never intersect even if extended from both sides then they are **Parallel.**

1) Match:

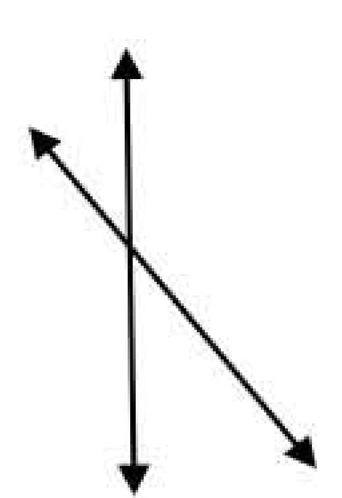
a) Two intersecting and Perpendicular straight lines.



b) Two intersecting and non_ Perpendicular straight lines.



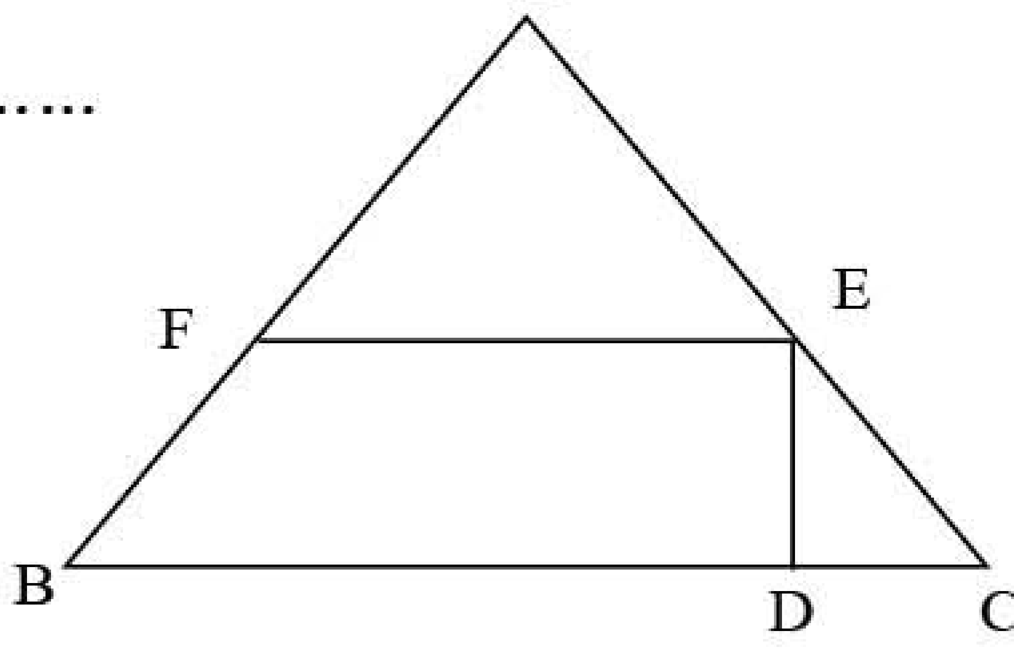
c) Two parallel straight lines.





2)Look at the figure and then complete:

a) $\overleftrightarrow{AB}$,$\overleftrightarrow{AC}$ are two .... straight lines.



b) $\overleftrightarrow{BF}$,$\overleftrightarrow{CE}$ are two ....straight lines.

c) $\overleftrightarrow{BD}$,$\overleftrightarrow{CE}$ are two.. straight lines.

d) $\overleftrightarrow{BC}$,$\overleftrightarrow{EF}$ are two.. straight lines.

e) $\overleftrightarrow{EF}$, $\overleftrightarrow{ED}$ are two.. straight lines.

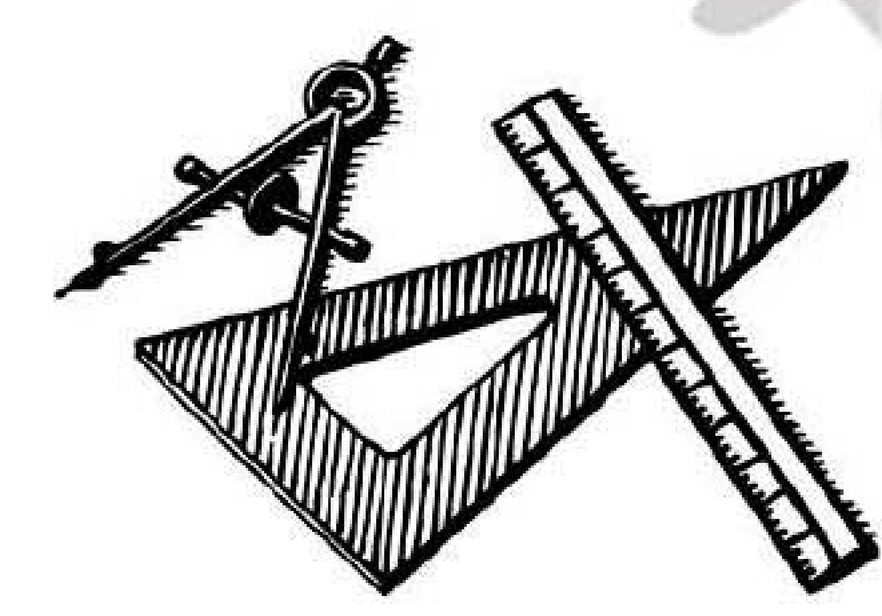
f) $\overleftrightarrow{BD}$, $\overleftrightarrow{AE}$ are two.. straight lines.

g) $\overleftrightarrow{BC}$, $\overleftrightarrow{FA}$ intersect at the point.........

h) $\overleftrightarrow{AB}$, $\overleftrightarrow{CE}$ intersect at the point...........

i) Angle (<DEF)=...........^{0} and its type is ....





3) Choose the correct answer:

a) Any two parallel straight lines………………

(may intersect , never intersect)

b) The intersection of two intersecting lines forms four angles. If each angle=90°, then the two lines are…………

(Parallel, perpendicular, non_ perpendicular)

c) If there are 2 intersecting perpendicular straight lines, then the type of each angle between them is………..

(Straight, acute, right, obtuse)

d) If there are two intersecting lines but not perpendicular, then the measure of each angle between them is ………

(less than or more than 90°, = 90°)

4) Use your instruments to draw a straight line M parallel to the opposite straight line L and another straight line N perpendicular to L.

Is N ⊥M? ……………………………………………………………………

Draw here:

5) Draw a straight line L and mark a point A on it, then draw another perpendicular straight line from the point A to the line L.

Draw here:

6) Draw a straight line $\overleftrightarrow{AB}$ and draw a perpendicular line from the point X outside it to intersect $\overleftrightarrow{AB}$ at Y .

m(∠ XYB) = m(∠ ....) = ...°

Draw here:

7) Draw a straight line K and mark a point A outside it, then draw a straight line M parallel to K and passing through the point A

Draw here:

Unit 2 Lesson 2

Polygons

Remember:

* **Polygons** are 2-dimensional shapes. They are made of straight lines, and the shape is "closed" (all the lines connect up).

* In any Polygon the number of sides = the number of angles = number of vertices.

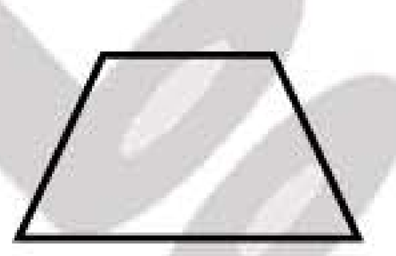
* A **Quadrilateral** is a polygon that has 4 sides.

* In any quadrilateral the **diagonal** is the line segment joining two non-consecutive vertices.

* If the intersecting point of any 2 diagonals cut them equally, then we say that they **bisect** each other.

* The **Square** is a quadrilateral which sides are equal in length and its angles measure 90° each. Also its diagonals are equal, perpendicular and bisect each other.

* The **Rectangle** is a quadrilateral where each two opposite sides are equal in length and all angles measure 90° each. Also its diagonals are equal, non-perpendicular and bisect each other.



* The **Trapezium** is a quadrilateral where only 2 sides are parallel but not equal in length

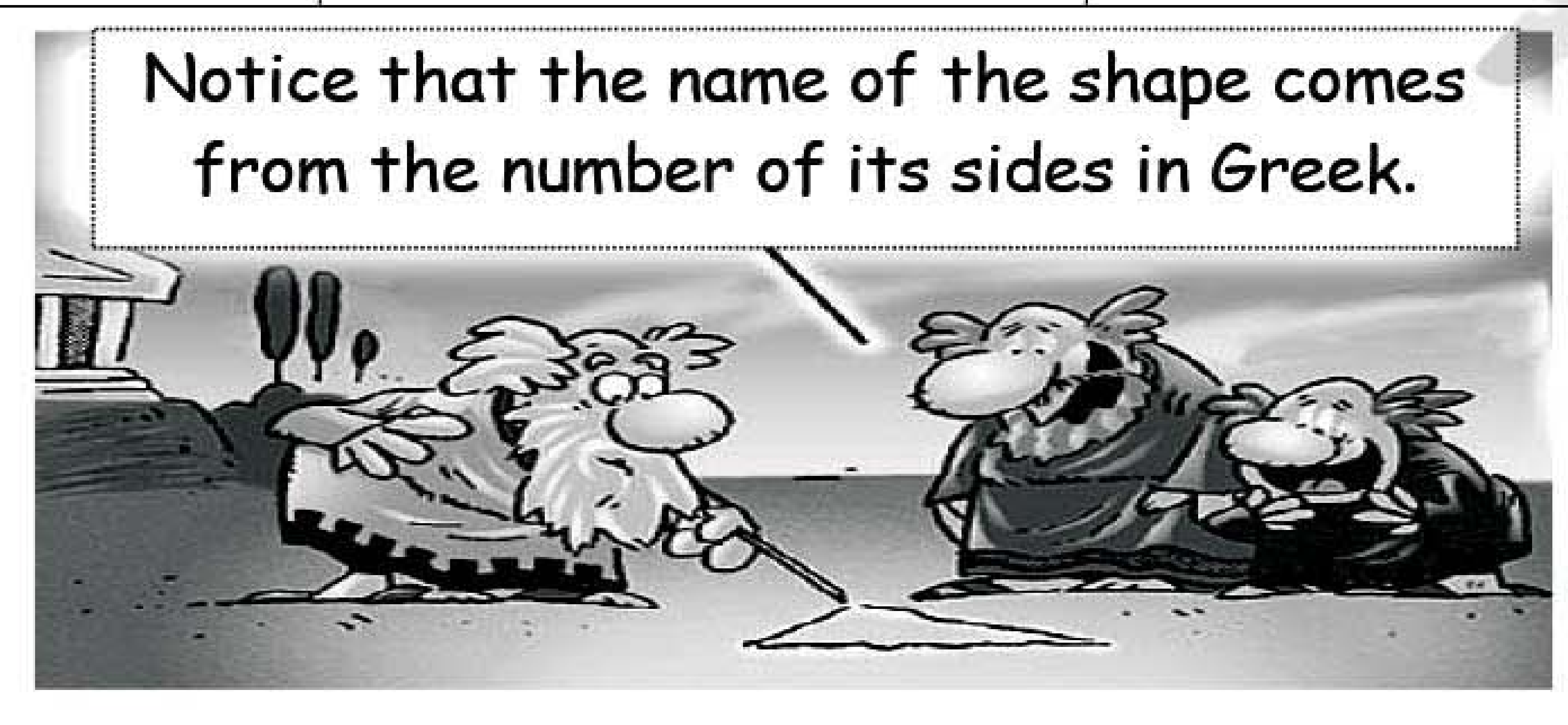


"Polygon" comes from Greek. **Poly**- means "many" and -***gon*** means "angle".

1) Complete the following table:

Polygon	Number of sides	Name of Polygon
		Triangle
		Quadrilateral
		Pentagon
		Hexagon
		Heptagon
		Octagon
		Nonagon
		decagon

Notice that the name of the shape comes from the number of its sides in Greek.



Types of Quadrilaterals and their properties:

Quadrilateral					
Name	Parallelogram	rectangle	square	rhombus	trapezium
All sides are equal.	No	No	yes	Yes	No
Each two opposite sides are equal	yes	yes	yes	yes	No
Each two opposite sides are parallel.	yes	yes	yes	yes	Only 2 sides

1) Draw the square ABCD whose side length 4 cm, then complete.

Draw here:

$\overline{AB}$ = …… = …… = …… = …… cm

$\overline{AB}$ // …… and $\overline{BC}$ // ……

$\overline{AB}$ ⊥ ……….., $\overline{CD}$ ⊥ ……….. and $\overline{BD}$ ⊥ ………..

2) Draw a rectangle XYZL such that XY =4cm and YZ =3cm, then complete:

Draw here:

a) $\overline{XY}$ =………… = ………cm. b) $\overline{YZ}$ =…………= ………cm.

c) $\overline{XY}$ \\ ……… and ⊥ ……… d) $\overline{YZ}$ \\……… and ⊥ ………

3) Put (✓) or (×):

a) The rhombus has 4 right angles. ( )

b) The rectangle is a quadrilateral which has 4 right angles( )

c) The two parallel straight lines don't intersect. ( )

d) The trapezium is a quadrilateral in which each opposite sides are parallel. ( )

4)Complete:

a) The ………………… has 4 equal sides and 4 right angles.

b) The parallel straight lines never ……………

c) The diagonals of the …………………… are perpendicular and equal in length.

d) The square is a ……………………… of 4 equal sides.

f) The measure of the straight angle = ………………°

g) If there are 4 right angles in a quadrilateral, then it is either ……………………… or ………………………

h) If there are equal diagonals in a quadrilateral, then it is either ………………………… or …………………………

i) If only 2 opposite sides are parallel and not equal in length in a quadrilateral, then it is a …………………………

j) If the measure of one of the angles between two straight lines is 90°,then these straight lines are …………………………

Unit 2-Lesson 3

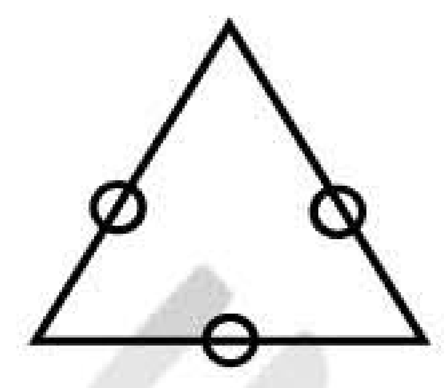
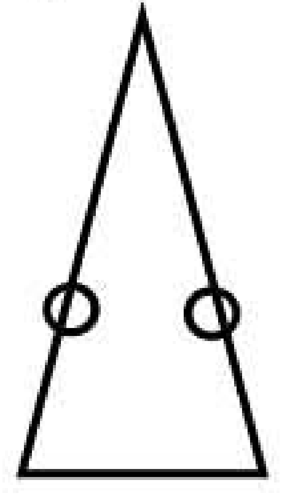
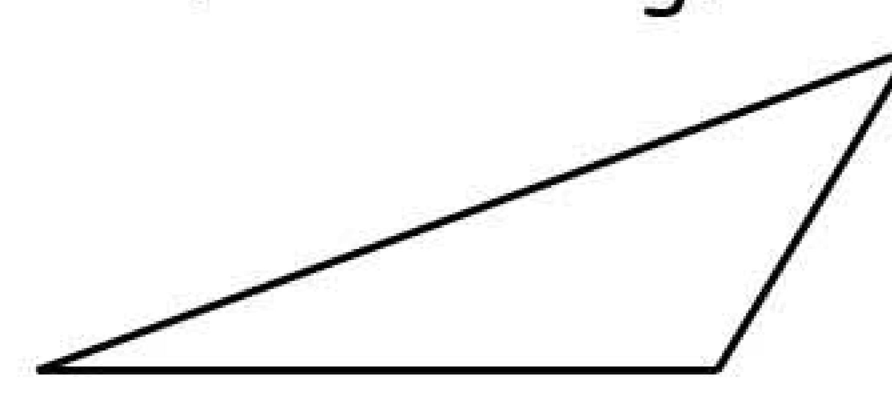
Triangles

Remember:
* A Triangle is a **Polygon** of 3 sides and 3 angles.
* We can identify the type of the triangle according to the measure of its angles or the length of its sides
* The sum of the measures of the interior angles of a triangle = 180°

Types of Triangles According to the Measures of Angles:

Right-angled Triangle	Obtuse-angled Triangle	Acute-angled Triangle
It has one right angle and 2 acute angles	It has one obtuse angle and 2 acute angles	It has 3 acute angles

Types of Triangles According to the Length of its Sides:

Equilateral Triangle	Isosceles Triangle	Scalene Triangle
		
The three sides are equal in length	Two sides are equal in length.	The three sides are different in length

Let's see if we can put all properties together!!

	Right-angled Triangle	Obtuse-angled Triangle	Acute-angled Triangle
Equilateral Triangle	Can't be	Can't be	
Isosceles Triangle			
Scalene Triangle			





1) Put (✓) or (×):

a) The equilateral triangle can have an obtuse angle. ( )
b) The right angled triangle has only one right angle. ( )
c) The triangle never has 2 right angles. ( )
d) The straight angle = the sum of the measures of angles of the triangle. ( )
e) The triangle never has 2 acute angle. ( )
f) The obtuse angled triangle has only one acute angle. ( )

2) Complete:

a) The measure of the straight angle……………… ^{0}
b) The measure of the acute angle is less than…………… ^{0}
c) The measure of the obtuse angle is greater than……… ^{0}
d) The measure of the right angle is ………… ^{0}
e) The sum of the measures of the interior angles of the triangles is ……… ^{0}

3) Draw Δ ABC such that BC = 6cm, m(<B) = 45^0 and m(<C) = 75^0 Then complete:

Draw here:

a) m(<A)=……… ^{0}.
b) The type of Δ ABC is ……………………according to its angles.

4) Draw Δ XYZ such that XY=6cm, YZ=4cm and m(< Y)=85^0.

Draw here:

What is the kind of Δ XYZ according to :

a) The angles……………………………

b) The sides ……………………………

5) Draw Δ XYZ in which XY = 4cm, YZ= 5cm and m (<Y) = 70°.

Draw here:

a) What is the sum of the measures of the two angles (<YXZ) and (<YZX)? ……………………………………………………

b) Use your protractor to find m(<YXZ)…………………………

c) Then calculate m(<YZX) (without measuring) …………………

d) What is the type of the triangle according to

The measures of its angles……………………………

The length of its sides……………………………

Unit 3-Lesson 1



Multiples

The **multiples** of a number is the product of multiplying this number by any other number

1) Complete :

a) ……… is a multiple of all numbers.

b) All the numbers are multiples of ……….

c) The multiples of "4" are ……… , ……… , ……… , ……… etc.

d) The multiples of "5" are ……… , ……… , ……… , ……… etc.

e) The multiples of "6" are ……… , ……… , ……… , ……… etc.

f) The multiples of "7" are ……… , ……… , ……… , ……… etc.

g) ……… , ……… , ……… Are common multiples of 2 and 5.

h) ……… , ……… , ……… Are common multiples of 2 and 3.

2) Complete:

a) All the multiples of 3 less than 29 are ………………………………

……………………………………………………………………………………………

b) All the multiples of 7 less than 49 are………………………………

……………………………………………………………………………………………

c) All the multiples of 10 between 40 and 90 are ……………………

……………………………………………………………………………………………

d) All the multiples of 8 between 20 and 73 are ……………………

……………………………………………………………………………………………

e) Three common multiples of 4 and 5 are ……………………………

……………………………………………………………………………………………

f) Multiples of 5 that are less than 35 ……………………………………

……………………………………………………………………………………………



3) Join each number from (a) with its multiples in (b):

a) 3 5 7

b) 5 9 12 15 21 35 70

Unit3-Lesson2

Divisibility

Remember:
* A number is **divisible** by another if the remainder of the division operation is **zero**.
* All multiples of a number are **divisible** by this number.
* Any number is divisible by **1.**

Divisibility Rules:

A number is divisible by:	**If:**	**Example:**
2	The last digit is even (0,2,4,6,8)	128 **Yes** 129 **No**
3	The sum of the digits is divisible by 3	381 (3+8+1=12, and 12÷3 = 4) **Yes** 217 (2+1+7=10, and 10÷3 = 3 $^{1}/_{3}$) **No**
4	The last 2 digits are divisible by 4	13**12** is (12÷4=3) 70**19** is not
5	The last digit is 0 or 5	17**5** is 80**9** is not
6	The number is divisible by both 2 *and* 3	114 (1+1+4=6 and 6÷3 = 2) **Yes** 308 (3+0+8=11 and 11÷3 = 3 $^{2}/_{3}$) **No**

7	If you double the last digit and subtract it from the rest of the number and the answer is: • **0**, or • **divisible by 7** (Note: you can apply this rule to that answer again if you want)	672 (Double 2 is 4, 67-4=63, and 63÷7=9) **Yes** 905 (Double 5 is 10, 90-10=80, and 80÷7=11 $^3/_7$) **No**
8	The last three digits are divisible by 8	109**816** (816÷8=102) **Yes** 216**302** (302÷8=37 $^3/_4$) **No**
9	The sum of the digits is divisible by 9 (Note: you can apply this rule to that answer again if you want)	1629 (1+6+2+9=18, and again, 1+8=9) **Yes** 2013 (2+0+1+3=6) **No**
10	The number ends in 0	22**0** is 22**1** is not
11	If you sum every second digit and then subtract all other digits and the answer is: • **0**, or • **divisible by 11**	1**3**6**4** ((3+4) - (1+6) = **0**) **Yes** 3**7**2**9** ((7+9) - (3+2) = **11**) **Yes** 2**5**1**7**6 ((5+7) - (2+1+6) = **3**) **No**
12	The number is divisible by both 3 *and* 4	648 (6+4+8=18 and 18÷3=6, also 48÷4=12) **Yes** 916 (9+1+6=16, 16÷3= 5 $^1/_3$) **No**





1) Put (✓) or (✗):

a) The number 37 is divisible by 7. ( )
b) The number 40 is divisible by both 5, 8. ( )
c) The number 42 is divisible by 5. ( )
d) The number 72 is divisible by 8. ( )
e) The number 52 is divisible by 9. ( )
f) The number 81 is divisible by 9. ( )
g) The number 90 is not divisible by 3. ( )
h) The number 100 is not divisible by 10. ( )

2) Complete:

a) 9 × 11 = ……… then ………… is divisible by ………… and ……………
b) 4 × 111= ……… then ………… is divisible by……… and …………
c) 26 ÷ 5 = ………… and remainder ………, then 26 is……………………
by 5.
d) If 57 × 63 = 3591, then the number ……… is divisible by
………,………,……… and also a common multiple of ………, ………, ………

3) Underline the numbers which are divisible by 6:

0 , 18 , 19 , 23 , 27 , 30 , 42 .

4) Underline the numbers which are not divisible by 5:

0 , 7 , 13 , 15 , 19 , 23 , 40 , 65 .

5) Circle the numbers that are divisible by both 2 and 3 at the same time:

0 , 4 , 6 , 9 , 12 , 14 , 15 , 18 .

Unit3-Lesson 3

Factors and Prime numbers

Factors of a number:

Remember:
* **Factors** of a number are all the numbers which divide this number.
* **Factorization** is the process of writing the number in the form of the product of 2 or more numbers.
* Number **1** is a factor of all numbers.
* Each number is a factor of itself.
* All numbers except zero are factors of zero

1) Put (✓) or (✗):

a) Factors of 24 are 1,2,3,4,6,8,24 only. ( )

b) Factors of 13 are 1,3,13. ( )

c) Number **1** is a factor of all numbers. ( )

d) The factors of number zero are 0, 1, 2, ...etc. ( )

e) The number 12 is the only factor of 72. ( )

f) The number 5 has only 2 factors. ( )

2) Find the factors of each of the following number:

Ex: 32 = 1× 32 = 2× 16= 4×8

Then factors of 32 are: 1, 2, 4, 8, 16, 32

Remember the **U**- shape rule!!

a) 14 ....

....

b) 22 ....

....

c) 45 ....

....

3) Complete:

a) 3 is one of the factors of the numbers………, …………, …………

b) 5 is one of the factors of the numbers………, …………, …………

c) The number 20 has ………………… factors only.

d) The factors of number 9 are ……… , ……… , ………

e) The number of factors of 6 is …………………

Prime Numbers:

Remember:
* The **Prime** number is divisible by **1** and itself only, which means that it has only two factors (1 and itself)
* A **composite** number is a whole number greater than 1 that has more than two factors.
* One is **not** a prime number.
* 2 is the smallest prime number.
* 2 is the only even prime number.
* All prime numbers are odd **except 2.**

1) Put (✓) or (×):

a) 17 is an odd prime number. (   )

b) 15 is a prime number.   (   )

c) Any odd number is a prime number. (   )

d) There are even number other than 2 which are prime.(   )

e) The prime number is the number divisible by 1 and itself only   (   )

f) 1 is a prime number. (   )

g) The smallest prime number is 2. ( )

h) 213 is a prime number. ( )

i) 0 is a factor of all numbers. ( )



2) Underline the prime number:
0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,
21,23,24,25,26,27,28,29,30.

3) Choose:
a) ……… is a prime number. (16 , 19 , 21)
b) The smallest odd prime number is ………… (0 , 1 , 3)
c) ……… is a non-prime number. (15, 17, 27)

4) Write all prime numbers between 36 and 62
……………………………………………………………………………………………
……………………………………………………………………………………………

5) Write all non-prime numbers between 7 and 34
……………………………………………………………………………………………
……………………………………………………………………………………………

Prime Factorization:

Remember:
* **Prime Factorization** is finding which prime numbers multiply together to make the original number.
* Prime Numbers are the basic building blocks of all numbers.

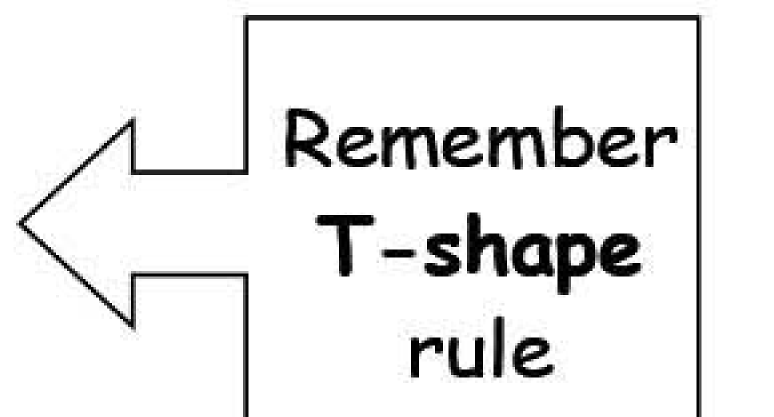
1) Factorize each of the following numbers to its prime factors:

Method of solution: Repeatedly divide by the possible prime factors until the quotient is 1.
Example: Factorize 36
Then $36 = 2 \times 2 \times 3 \times 3$

36	2
18	2
9	3
3	3
1	



a) 54 ……………………………………



b) 63……………………………………

c) 12 ……………………………………

d) 56 ……………………………………

e) 64 ……………………………………

f) 96 ……………………………………

4) Write 2 numbers, the prime factors of the first are 2, 2, 2, 3 and 3 and the prime factors of the second are 2, 2, 3, 3.

The first number is ………………………………………………………

The second number is ………………………………………………………



Unit3 Lesson 4

Common factors and
Highest common factors (H.C.F)

Remember:
* A **common factor** of two numbers is a factor of each of these two numbers.
* The **highest common factor (H.C.F)** for a set of numbers is the highest number that all the numbers are divisible by.
* 1 is a **common factor** of all numbers.
* 1 is **not** the (H.C.F) of two or more numbers.
* If 1 is the only common factor of two numbers or more, then there is **no (H.C.F)** for these numbers

1) Find:

a)Two common factors of 10 , 15 ....

....

b) Three common factors of 30, 45 ....

....

c) Three common factors of 30, 60, 90 ....

....

d) All common factors of 40, 72 ....

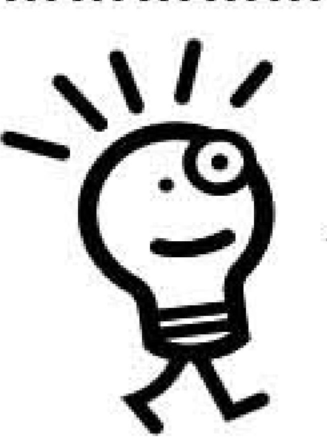
....

e) All common factors of 16 and 24 ....

....

f) Three common factors of 20 and 60 ....

....



Think!! Are all the multiples of 2, factors of 100?? ... Prove your answer.

Method 1 to find H.C.F:

1. Find the factors of each number.
2. Determine the common factors of these numbers.
3. Choose the highest factor of them.

Ex: H.C.F of 24 and 42
Factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24
Factors of 42 are 1, 2, 3, 6, 7, 14, 21, and 42
Common factors are: 1, 2, 3, and 6
Then the **H.C.F** is 6

2) Find the (H.C.F) of each of the following in the same way:

a) 18, 45

....
....
....
....

b) 21, 35

....
....
....
....

c) 14, 42, 70

....
....
....
....

Method 2 to find H.C.F:

1. Factorize each number to its prime factors.
2. Find the common prime factors.
3. Multiply them by themselves, then the result is the H.C.F

Ex: H.C.F of 24 and 42
Prime Factors of 24 = 2 × 2 × 2 × 3
Prime Factors of 42 = 2 × 3 × 7
Then the **H.C.F** = 2 × 3 = 6

3) Find the (H.C.F) of each of the following in the same way:

a) 15, 30, 45

....

....

....

b) 12, 24, 36

....

....

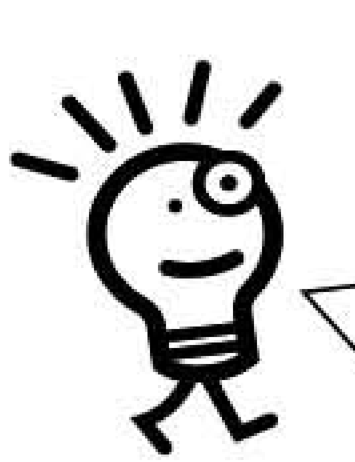
....

c) 25, 30, 60

....

....

....



Think!! If the H.C.F of three numbers is 15, then what are these numbers??

Unit3-Lesson 5

Common Multiples and Lowest Common Multiples (L.C.M)

Remember:
*The **multiples** of a number is the product of multiplying this number by any other number
***Lowest Common Multiple (L.C.M)** for a set of numbers is the smallest number (other than zero) that is divisible by each of these numbers, then it is a multiple for each of these numbers individually.
*The (L.C.M) of any prime numbers is their product.
* **Zero** is a common multiple of all whole numbers but it is **not** a **Lowest Common Multiple.**
* The product of any two numbers equals the product of their H.C.F and L.C.M

1) Put (✓) or (✗):

a) The common multiples of 3, 5 are multiples of 15 ( )
b)The (L.C.M) of 5,7,11 = 5x7x11 ( )
c)The (L.C.M) of 11,23,37 = 11x23x37 ( )
d) Zero is the L.C.M of 45 and 35 ( )
e) All the multiples of 5 are multiples of 10 ( )
f) There are no common multiples of 7 and 11 ( )
g) All the multiples of 10 are 2-digit numbers ( )
h) Zero is a common multiple of all numbers ( )
i) The common multiples of 2, 6 are multiples of 12 ( )

2) Find the common multiples of 12 and 18 between 0 and 80
multiples of 12……………………………………………………………
multiples of 18……………………………………………………………
common multiples…………………………………………………………



Method 1 to find L.C.M:

4. Find the multiples of each number.
5. Find the common multiples of these numbers.
6. The smallest multiple (other than zero) is the **L.C.M**

Ex: L.C.M of 9 and 12:
Multiples of 9 are 0, 9, 18, 27, 36, 45, 54, 63, 72, …etc.
Multiples of 12 are 0, 12, 24, 36, 48, 60, 72, 84, …etc.
Common multiples are: 0, 36, 72, …etc.
Then **L.C.M** is 36

3) Find the L.C.M in the same way:

a) The (L.C.M) of 15, 45.
Multiples of 15……………………………………………………………
Multiples of 45 ……………………………………………………………
Common multiples ………………………………………………………
The L.C.M is………………………………………………………………

b)The (L.C.M) of 6, 7.
Multiples of 6 ……………………………………………………………
Multiples of 7 ……………………………………………………………
Common multiples ………………………………………………………
The L.C.M is………………………………………………………………

c)The (L.C.M) of 12,18,36
Multiples of 12……………………………………………………………
Multiples of 18 ……………………………………………………………
Multiples of 36 ……………………………………………………………
Common multiples ………………………………………………………
The L.C.M is………………………………………………………………

Method 2 to find L.C.M:

7. Factorize the two numbers to their prime factors.
8. Find the L.C.M as shown in the example

Ex: L.C.M of 18, 27 and 36:

$18 = 2 \times 3 \times 3$

$27 = \quad 3 \times 3 \times 3$

$36 = 2 \times 3 \times 3 \quad \times 2$

Then **L.C.M** = $2 \times 3 \times 3 \times 3 \times 2 = 108$

a)The (L.C.M) of 14, 21 and 35

....

....

....

....

b)The (L.C.M) of 18, 30 and 42

....

....

....

....

c) The (L.C.M) of 10, 12 and 15

....

....

....

....

Unit4 Lesson 1



The Length

Remember:

1 km = 1000 m 1 cm = 10 mm
1 dm = 10 cm 1 m = 100 cm

* To convert from a larger unit of length to a smaller unit of length we multiply. *Ex:* km × 1000 m, m ×100 cm

* To convert from a smaller unit of length to a larger unit of length we divide. *Ex:* mm ÷ 10 cm, cm ÷ 10 cm

1) Complete the following:

a) 7 cm = …………….mm. b) 4cm =…………..mm.
c) $6\frac{1}{2}$ cm = ………..mm. d) 150mm=………cm.
e) 100mm =……….cm. f) 2.5m =…………cm.
g) 50mm =…………cm. h) 700mm=……….cm.
i) 1m=……………cm=……………..mm.
j) 7005 mm=……………cm=……………m.



2) Arrange the following in ascending order:

a) 65cm , 70mm , 2m.

……………………………………………………………………………………………

b) 5dm , 35cm , 1m , 140mm.

……………………………………………………………………………………………



c) 3km , 2750m , 8000cm.

....

3) Arrange the following in descending order:

a) millimeter , decimeter , meter , centimeter

....

b) 50m , 1500mm , 701cm

....

c) 57dm , 13m , 1113mm , 704cm

....

Perimeter

Remember:
* The **perimeter** of any polygon is equal to the **sum** of its side lengths.
* Perimeter of a square = side length × 4
* Perimeter of a rectangle = (length + width) × 2
* Perimeter of a triangle = sum of all side lengths.

1) Calculate the following:

a) Perimeter of a square of side length 4 cm.

....

b) Perimeter of a rectangle of dimension 40cm, 30cm.

....

c) The side length of a square whose perimeter is 28cm.

....

2) If the perimeter of a rectangle is 30cm and its width is half its length. Find the length and the width of the rectangle.

....
....
....

3) If the length of a rectangle is three times its width and its length is 24 cm. Find its perimeter.

....
....
....

4) Look at each of the following shapes, and then calculate the perimeter of shaded part in each of them:

Figure 1

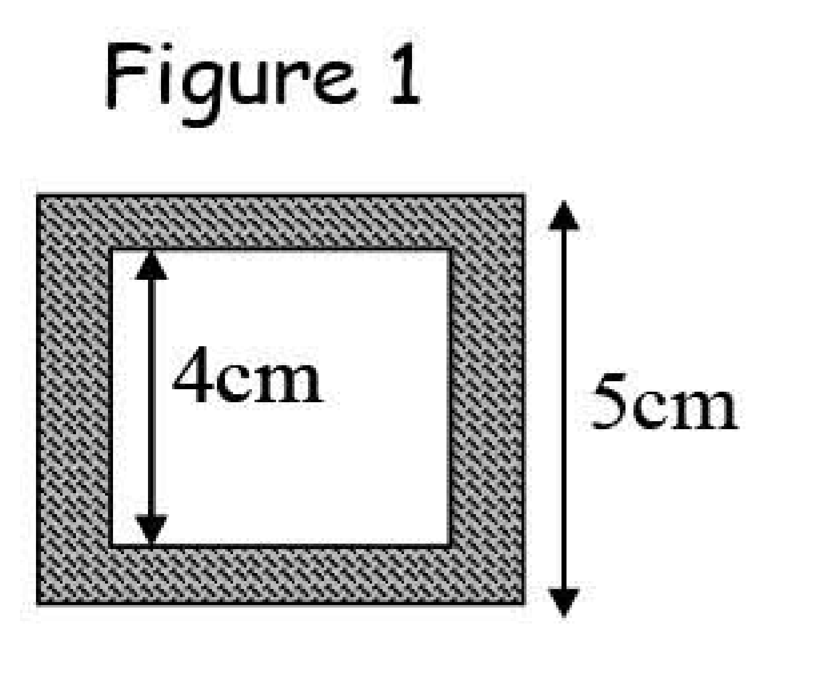
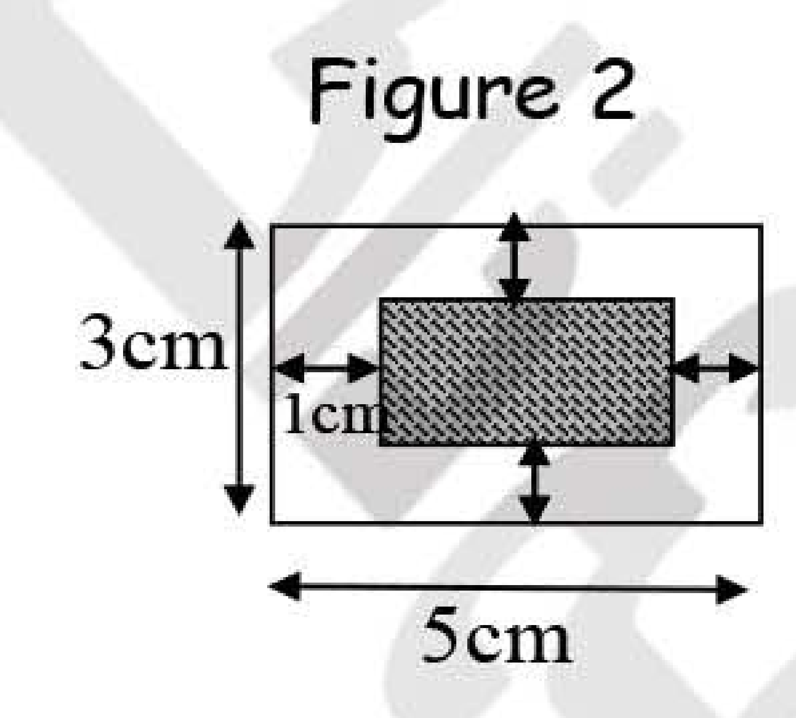


Figure 2

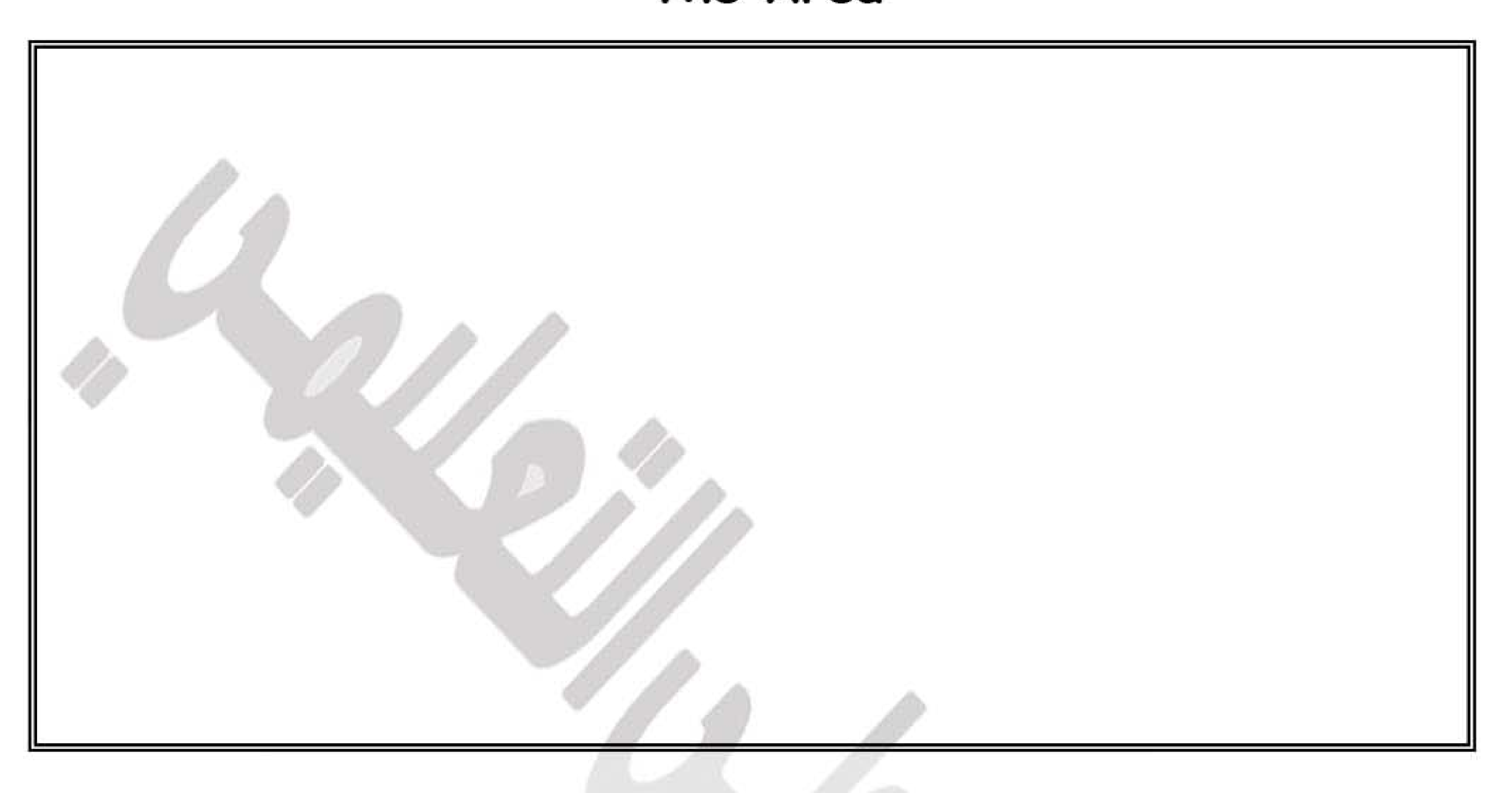


Perimeter of shaded part in figure 1= ....
....

Perimeter of shaded part in figure 2= ....
....

Unit4 Lesson 2

The Area



1) **Complete:**

a) The area of square whose side length is 8 cm

=…………… ×……………=………… cm^2

b) The area of a square whose side length is 3 cm

=………… ×………… =……… cm^2

c) A square of perimeter 40 cm.

Then the side length =………………÷ 4 =……… cm.

And the area of this square =…………× ……… =……….

2) Find the area of a rectangle whose length is 70 cm and width is 50 cm in square decimeter.

……………………………………………………………………………………………

……………………………………………………………………………………………

3) Arrange the following units of area descendingly:

Cm^2, dm^2, km^2, m^2, mm^2

....

4) Complete:

a) $3km^2$=..m^2.

b) $7000000m^2$=....................................km^2.

c) $75m^2$=...dm^2.

d) $4500dm^2$=...cm^2.

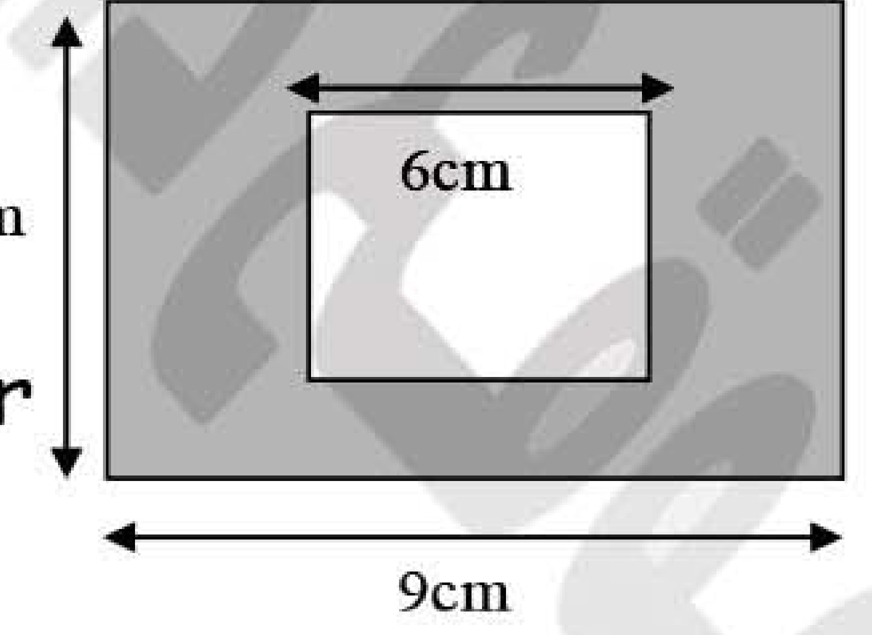
e) $850000cm^2$=.............................dm^2=.............................m^2.

5) The opposite figure represents a rectangle of dimensions 9cm and 7cm. Inside it there is a square of side length 6cm .

Calculate:

1) The area of the shaded part.

2) The perimeter of the inner and outer boundary of the shape



....

....

....

....

....

....

Revision



1)Find the result :

a) 1 234 576 + 16 908 6774 = ...
b) 3 850 ÷ 25 = ...
c) 425 x 17 = ...
d) Twelve hundred thousand – 645 098 =
....

2)Complete :

a) Perimeter of rectangle = ...
b) Perimeter of rectangle of length 7 cm and width 3 cm =....................................
c) The sum of measures of the two acute angles of a right angled triangle is ....
d) 8 km = ... m

3) Draw the square ABCD with side length 5 cm. Find its area and its perimeter.

....
....
....
....
....
....
....
....
....
....



4)Find the result :

a) 197 thousand – 38 467 = ...

b) 12 188 946 + 8 427 =..

c) 520 × 35 =..

d) 5 742 ÷18 =..

5) Choose the correct answer:

a) 48 dm = ...cm (480 – 4.8 – 480)

b) Area of rectangle with dimensions 3cm and 2 cm is .... (6cm – 10cm – 6cm).

6) a) 24 , 26 , 28 , ... the rule is ....

b) Find L.C.M of 20 and 25.

....

....

....

....

7) a) Write all the prime numbers between 0 and 20.

....

....



b) Draw the rectangle XYZL in which XY = 8 cm , YZ= 5 cm then join its diagonals.

Draw here:

8) Find :

a) 12 345 687 + 2 543 645 = ……………………………

b) Hundred million – 67 876 989 = ………………………….

c) 1000 ÷ 125 = ………………………………

d) 25 × 12 × 4 = ………………………………

9) **Complete :**

a) The factors of 12 are …………, …………, ……………, ……………, ………….. and ……………..

b) 540 is divisible by ……………., ……………., ……………..

c) 40 million = ………………. hundred thousand.

d) If x + 3 = 20 then x =……………..

e) …………..÷ 13 = 10 and reminder = 1.

10) a) Find the price of a rectangular shaped frame of dimensions 90 cm and 120 cm if the price of one centimeter is LE. 50.

....

....

....

....

....

b) In the opposite figure:

Find the area of the shaded part.

9cm

4 cm

3cm

....

....

....

11) a) Draw a triangle ABC in which AB = 4cm , BC = 3cm and m < B = 90. Measure the length of $\overline{AC}$ and find the perimeter of this triangle

Draw here:

....

....

....

....

....

....

....

....

....

12) Find the result :

a) 783 240 000 + 18794216 =................................

b) 759 208 962 – 18 888 999 =..............................

c) 489 × 76 =..

d) 43232 ÷ 44=..

13) Complete :

a) If the side lengths of a triangle are 3, 5 and 4 cm then its type according to its side lengths is..............................

b) The sides of the rhombus are ....

c) The value of 9 in the number 39 468 125 is........................

d) The area of a rectangle =..
but area of a square = ...

e) 7 dm = ...cm but 7 dm^2 =.............cm^2

14) a) Maha bought a TV set for L.E 2 640. She paid L.E 640 and the rest on 10 equal installments. Find the value of each installment.

....

....

b) Write all the multiples of 12 less than 40

....

....



Model Exam1



1) Find the result:

a) 2784 × 58 =……………………

b) 231200 ÷ 68=…………………

c) 6 598 235 + one million =………………

d) 87 255 145 – 569 415 =…………………

e) 3 287 500 + 713 250 -3 000 750=…………………

f) 45 215 325 – two hundred thousand=……………………

2) Complete:

a) 57 dm^2 =…………………cm^2

b) The number 3120 is divisible by…………, …………, …………

c) The value of 5 in 25417890 is……………………

d) The perimeter of square =…………………

e) 24, 28, 32, …………

f) The perimeter of a rectangle of dimension 10 cm, 6cm is……………

3) Write all the prime numbers between 2 and 20

……

……

4) a) Find the L.C.M of the numbers 6 and 8

……

……

……

……

……



b) Find the H.C.F of 18 and 24

…………………………………………………………………………………………

…………………………………………………………………………………………

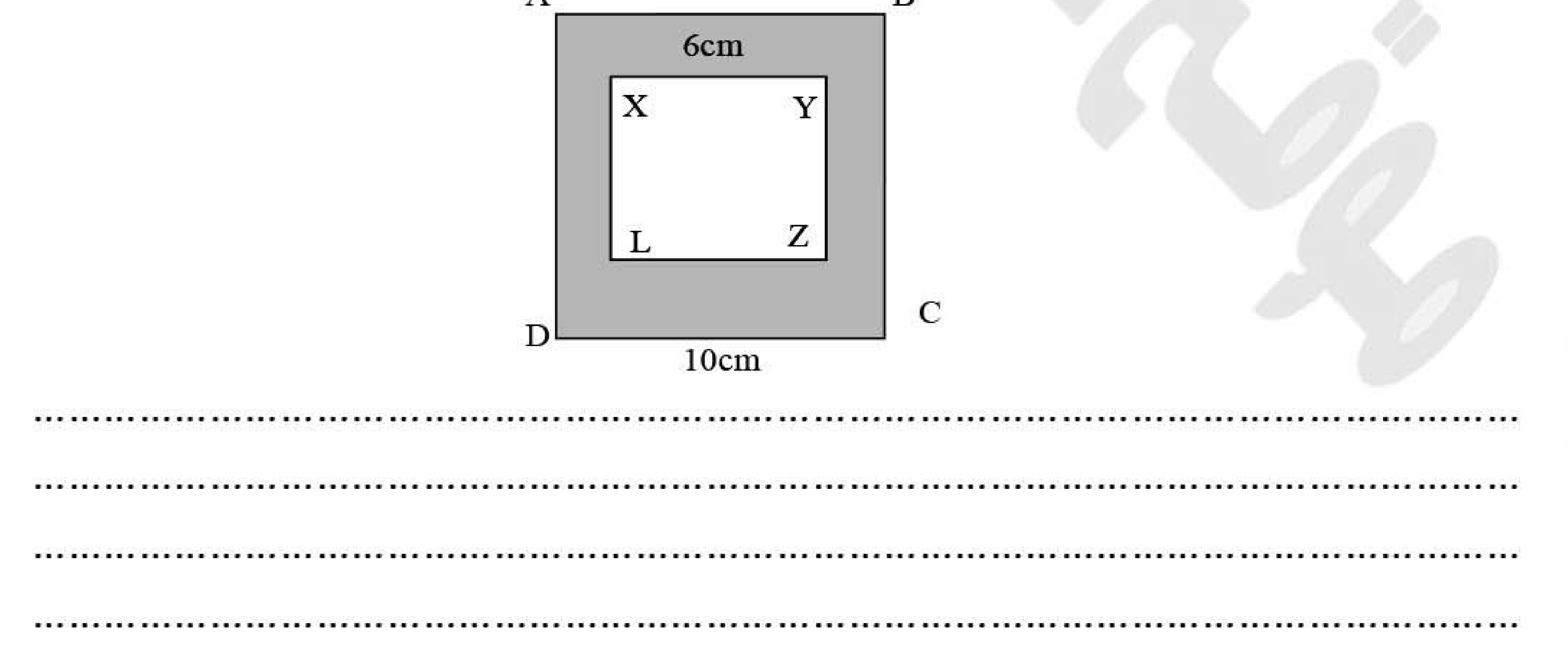
…………………………………………………………………………………………

…………………………………………………………………………………………

c) Draw the square XYZL whose side length 3cm, join its diagonals.

Draw here:

5) In this figure. Find the area of the shaded part.



…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

Model Exam 2

1) Complete

a) In any triangle there are at least …………… acute angles.

b) The only even prime number is ………

c) If the sides of a triangle is 7 cm, 7 cm and 10 cm, then its type is ……………………………… according to its sides.

d) The measure of each angle in the equilateral triangle is ……°

e) The quadrilateral has ………………… diagonals

f) 8 dm + 8 cm = ………… cm

2) Choose the correct answer:

a) In the isosceles triangle there are ………… equal sides (2 , 3 , 4)

b) The common multiple of all number is ………… (1 , 2 , 0)

c) The type of the angle of measure 89° is …………… (obtuse , acute , right)

d) The perimeter of a rectangle whose length is 10 cm and width is 5 cm = …………… (10 , 20 , 30 cm.)

e) The number which is divisible by 2 and 5 is also divisible by ………… (7 , 6 , 10)

f) The area of the square of side length 10 cm. equals ……………………… ($20\ cm^2$, 100cm , $100\ cm^2$)

3) Put (✓) or (×):

a) 7 m. = 700 dm ( )

b) 4 km. = 400 m ( )

c) The smallest 7-digit number is million ( )



d) The perimeter of the rectangle = (L + W) × 2 ( )

e) The value of the digit 3 in the number 230 705 is 30000 ( )

f) 60 thousands = 6000 tens ( )

4) a) Find the H.C.F. and the L.C.M of 12 , 24 and 36 4

....

....

....

....

b) Fady bought 25 boxes of soft drink for L.E.625. Find the price of each box.

....

5) a) ABC is a triangle where m(∠ A)=60°,m(∠ B)=30°. Find m(< C). What is the kind of that triangle according to its angles?

....

....

....

b) Find the area of rectangle whose dimensions are 10cm. and 15 cm

....

....